Claims

1. A method for transferring user position identifier, which is applicable for a broadband network composed of broadband access server (BAS) device layer, convergence layer and broadband access device layer, the method comprising the steps of:

a. setting a tag for each broadband access device and for each non-cascading access port in the broadband access device, respectively;

b. deciding whether the port receiving message in the broadband access device is a cascading port, if so, directly transferring the message received on the port; otherwise, inserting said tag set in step a into the message transmitted through this port in a fixed encapsulation format and transferring this message;

c. after the broadband access server receiving the message transferred in step b, implementing user identification according to the tag having been inserted into the message and performing associated processing.

2. The method according to claim 1, wherein the insertion in step b comprises: the broadband access device independently inserting the tag set in step a into the received message, or the broadband access device and a convergence layer device together being employed to insert the tag set in step a into the received message.

3. The method according to claim 2, wherein in step a, the tag set for the broadband access device is a VLAN Path Identifier (VlanPI) tag, the tag set for non-cascading access port in the broadband access device is a VLAN Channel Identifier (VlanCI) tag, said message is an Ethernet message.

4. The method according to claim 1, wherein the associated processing in step c comprises:

c1. reforming the received message and deciding whether the message is a data message or a control message, and if it is a data message, executing step c2; if it is a control message, executing step c3;

12

c2. removing the tag from the data message, checking binding relationship between the tag in the data message and the IP address of user, performing security checking, and transferring the qualified data message being checked;

c3. after implementing an authentication to the user, checking binding relationship between the user's account and physical access position according to the tag carried in the control message, performing user quantity control, and sending the tag, the user account and password to an AAA server for processing authentication.

5. The method according to claim 4, wherein in step a, the tag set for the broadband access device is a VLAN Path Identifier (VlanPI) tag, the tag set for non-cascading access port in the broadband access device is a VLAN Channel Identifier (VlanCI) tag, said message is an Ethernet message.

6. The method according to claim 1, wherein in step a, the tag set for the broadband access device is a VLAN Path Identifier (VlanPI) tag, the tag set for non-cascading access port in the broadband access device is a VLAN Channel Identifier (VlanCI) tag, said message is an Ethernet message.

7. The method according to claim 6, wherein the fixed encapsulation format in step b comprises: sequentially encapsulating destination Media Access Control (MAC) address, source MAC address, type of Ethernet VlanPI tag, VlanPI, type of Ethernet VlanCI tag, VlanCI, type of data message, data being transmitted, and checking field.

8. The method according to claim 1, wherein in step b the broadband access device comprises: an IP DSLAM device, or an Ethernet switch, or a Cable Modem Termination System (CMTS) device using Hybrid Fiber Coax (HFC) system.

9. The method according to claim 8, wherein when the broadband access device in step b is an IP DSLAM device composed of main control board, user interface board and backboard, the method of inserting the VlanPI and the VlanCI in step b further comprises the steps of:

the user interface board inserting the VlanCI tag into the received Ethernet message and the main control board inserting the VlanPI tag into the received Ethernet message,

or, the user interface board inserting the VlanCI tag and the VlanPI tag into the received Ethernet message, and the main control board directly transferring this message according to the VlanPI tag and the destination MAC address in the Ethernet message,

5   or, the user interface board inserting the VlanCI tag into the received Ethernet message, the main control board directly transferring this message according to the VlanCI tag and the destination MAC address in the Ethernet message, a convergence layer device inserting the VlanPI tag of the device from which the message is transmitted into the received Ethernet message without a VlanPI tag, and transferring

10   the message according to this VlanPI tag and the destination MAC address in the Ethernet message.

10. The method according to claim 1, wherein the user in step c is a general user or a user with a private tag of internal network.

11. The method according to claim 10, wherein when the user with inserted tag is

15   a user with private tag of internal network, in step b, the information of the private tag of internal network is encapsulated in the VlanCI tag.